

Remarks

The Office Action has been carefully reviewed and this Response is prepared in view of the Examiner's comments in the Action. The Applicants appreciate the attention of the Examiner to the application.

The Applicant herein affirms the election of claims 32-41 and claims 1-31 are withdrawn without prejudice or disclaimer.

Claims 33-41 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The claims are herein amended to avoid use of the objected-to phrase "breakaway coating."

Claims 37 and 38 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. The claims are herein amended to avoid use of the objected-to phrase "more strongly."

Claim 36 was rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claim 36 is herein amended to avoid use of the objected-to term "smooth."

Claims 32-41 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,423,406 to Bilodeau which discloses a heat-transfer label including a non-wax release liner.

It is first noted that Bilodeau does not disclose that image 25 is applied to release layer 17 of carrier 15. The Applicant understands claim 32 as including such a requirement. In addition, claim 47 has been added which further requires that the image be applied directly to the release-finish. These requirements are not disclosed or suggested by Bilodeau. Instead, Bilodeau applies ink layer 25 to lacquer layer 23. This is typical of heat transfers which require that an intermediate layer, such as Bilodeau's lacquer layer 23, be positioned between the image and the release layer of the carrier so as to allow for proper release during heating and transfer. Bilodeau does not disclose or suggest that its heat transfer label is operative without the lacquer layer and Applicant asserts that Bilodeau's heat transfer label is not operative without its lacquer layer separating the ink layer and release layer.

Therefore, because Bilodeau does not disclose or suggest an image applied to the release-finish, it is believed that the 103(a) rejection in view of Bilodeau is traversed by amendment and argument and the claims are allowable.

Secondly, independent claim 32 and new independent claim 50 each require that the adhesive layer be pressure sensitive. The Office Action previously addressed Bilodeau's teaching regarding pressure sensitive adhesive in regard to originally filed claim 35 by citing Bilodeau, at column 11, lines 58-63, which states:

Although release layer 17 is particularly well-suited for use as a release coating in a heat-transfer label, release layer 17 may also be useful as a release coating for metal sheets in foil stamping techniques and as a release coating for certain pressure sensitive adhesives and adhesive tapes, such as Scotch brand adhesive tape #810.

As is evident from this quote (the only passage in Bilodeau which mentions pressure sensitive adhesive), Bilodeau does not suggest that its heat-transfer label can include a pressure-sensitive adhesive or be operable with a pressure-sensitive adhesive; rather, it only addresses the other possible uses of release liner 17 in a description of release liner 17. The use of a pressure sensitive adhesive with lacquer layer 23 and ink layer 25 is never addressed and there is no teaching to suggest that a pressure sensitive adhesive would properly effect release between transfer portion 21 and release layer 17. This is especially evident when considering that Bilodeau requires heat of about 300° to 450° F to "cause transfer portion 21 to be released from support portion 13 and so as to cause adhesive layer 27 to become heat-activated for bonding to the desired article." Column 14, lines 23-27. There is no suggestion in Bilodeau that transfer portion 21 will be released from support portion 13 without heat. The use of such heat destroys pressure sensitive adhesive, therefore, it cannot be said that a pressure sensitive adhesive would be operable with Bilodeau's label. Furthermore, as is well known in the art of transfers, heat activated and pressure sensitive adhesives behave very differently and are not interchangeable.

Therefore, because Bilodeau does not disclose or suggest use of a pressure sensitive adhesive, and use of such an adhesive with the Bilodeau construction and method would be inoperable, it is believed that the 103(a) rejection in view of Bilodeau is traversed by amendment and argument and the claims are allowable.

In addition, heat-activated adhesives are not operable in the Applicant's invention. Because the adhesive directly contacts the very thin image in the Applicant's invention, the extreme heat (300° to 450° F) required by the heat-activated adhesive would cause interaction between the thin image and adhesive which would destroy the image. It is noted that Bilodeau lacks any teaching regarding the thickness of ink layer 25. Applicant's invention includes a very thin image with the independent claims requiring that the adhesive layer and image have a combined thickness less than about 5 mils. The Applicant asserts that the ink layer used in Bilodeau would necessarily be thicker to survive such extreme heat since Applicant's thin, unsupported image has been destroyed in tests using the heat needed for heat activated adhesives.

The Office Action stated that it would be obvious to one of ordinary skill in the art to produce an image, adhesive layer and release-finish with a thickness of less than 3 or 5 mils, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. However, as stated above, the Bilodeau label could not utilize components having the thicknesses required by Applicant's claims due to the required heat. Furthermore, Bilodeau lacks any motivation to include components of the claimed thicknesses and does not suggest that a thin applied image is desirable. Under *In re Antonie*, 559 F.2d 618 (CCPA1977) the prior art must recognize the particular parameter as being the "variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" MPEP 2144.05. Bilodeau lacks any recognition of the desirability of a specific thickness or the result of utilizing such a thickness.

Therefore, because Bilodeau does not disclose or suggest use of components having the thicknesses require by the Applicant, and use of such thicknesses in the Bilodeau heat activated method would be inoperable, it is believed that the 103(a) rejection in view of Bilodeau is traversed by amendment and argument and the claims are allowable.

The Applicant also submits additional prior art including U.S. Patent Nos. 6,143,407 to Lythgoe et al. and 5,320,693 to Helf. The Lythgoe et al. patent discloses a dry transfer which utilizes heat-fused plastisol ink that forms a plastisol substrate. Because the image itself is a substrate, the Lythgoe et al. patent fails to disclose or suggest the ability to secure the image and adhesive layer, substrate-free, to a surface. This key difference between Lythgoe et

al. and the Applicant's claimed invention is evident when understanding that Applicant's image is formed by ink which is *non-fused* and *non-cohesive*, i.e., does not form a cohesive film material layer as in Lythgoe et al. Because of the nature of the Applicant's applied unique image, forces acting on a border of the image are not transferred to the rest of the image; i.e., localized damage to the border of the image affects only that border. This is not the case in Lythgoe et al. in which forces affecting a portion of the image-substrate are transferred to the rest of the image-substrate through the cohesive forces inherent in a substrate. This negative characteristic is absent from Applicant's claimed invention.

Helf relates to a indicia-containing surface-coating including an indicia layer which is disclosed to be "a fabric; a foil or another metallic sheeting material; paper or other cellulosic sheeting material; various polymeric sheeting materials such as polyacetal film, polyamide film, polyanhydride film, polyester film, polyolefin film, polystyrene film, polyvinyl chloride ('PVC') film, polyvinylidene chloride film, polyurethane film, polyurea film, and so forth." Column 4, lines 39-46. Helf does not disclose or suggest a printed ink image, or the ability to secure the image and adhesive layer, substrate-free, to a surface. Helf clearly involves a substrate, and this is different than the Applicant's unique invention.

The Applicant believes that all rejections have been traversed by amendment and argument and all claims are in proper form for allowance. Early favorable action is earnestly solicited. The Examiner is invited to call the undersigned attorney if that would be helpful in facilitating resolution of any issues which might remain.

Respectfully submitted,



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MARK-UPS SHOWING CLAIM REVISIONS

Amend claims 32, 36-39 and 41 as follows:

32. (amended) A graphic transfer sheet comprising:

- an image-receiving substrate having first and second sides and a release-finish on the first side;
- an image applied to the release-finish;
- [an] a pressure-sensitive adhesive layer affixed to the image, the adhesive layer and image having a combined thickness less than about 5 mils; and
- a backing layer secured to the adhesive layer,

whereby the graphic transfer sheet is used to transfer and secure the image and adhesive layer, substrate-free, to a surface.

36. (amended) The transfer sheet of claim 32 wherein the backing layer is [smooth] polyester.

37. (amended) The transfer sheet of claim 32 wherein the release-finish is [a release-coating that adheres more strongly] adapted to adhere to the image-receiving substrate [when the image and adhesive layer are transferred to the surface.] so that separation between the image-receiving substrate and the image occurs between the release-coating and the image.

38. (amended) The transfer sheet of claim 32 wherein the release-finish is [a breakaway-coating that adheres more strongly] adapted to adhere to the image [than to the image-receiving substrate, so that the breakaway-coating remains on the image when the image is secured to the surface and the image-receiving substrate is removed] so that separation between the image-receiving substrate and the image occurs between the breakaway-coating and the image-receiving substrate.

39. (amended) The transfer sheet of claim 38 wherein the combined thickness of the adhesive layer, image and [breakaway-coating] release-finish is less than about 5 mils.

41. (amended) The transfer sheet of claim 39 wherein the combined thickness of the adhesive layer, image and [breakaway-coating] release-finish is less than about 3 mils.

42. The graphic transfer sheet of claim 32 wherein the image is comprised of ink.

43. The graphic transfer sheet of claim 42 wherein the image is printed onto the release-finish.

44. The graphic transfer sheet of claim 43 wherein the pressure-sensitive adhesive is printed onto the image.

45. The graphic transfer sheet of claim 32 wherein the pressure-sensitive adhesive contacts the backing layer at a surface and the surface is low tack.

46. The graphic transfer sheet of claim 32 wherein the image-receiving substrate, release-finish, image and pressure sensitive adhesive layer are mutually insoluble.

47. The graphic transfer sheet of claim 32 wherein the image is applied directly to the release-finish.

48. The graphic transfer sheet of claim 42, wherein the image is comprised of multiple inks to create a multi-colored image.

49. The graphic transfer sheet of claim 32 wherein the multi-colored image is picture-quality.

50. A graphic transfer sheet consisting of:

- an image-receiving substrate having first and second sides and a release-finish on the first side;
- an image applied to the release-finish;
- a pressure-sensitive adhesive layer affixed to the image, the adhesive layer and image having a combined thickness less than about 5 mils; and
- a backing layer secured to the adhesive layer,

whereby the graphic transfer sheet is used to transfer and secure the image and adhesive layer, substrate-free, to a surface.

51. The transfer sheet of claim 50 wherein the adhesive is a pressure-sensitive acrylic adhesive.

52. The transfer sheet of claim 50 wherein the combined thickness of the adhesive layer, image and release-finish is less than about 5 mils.

53. The transfer sheet of claim 50 wherein the combined thickness of the adhesive layer, image and release-finish is less than about 3 mils.

54. The graphic transfer sheet of claim 50 wherein the image is comprised of ink.

55. The graphic transfer sheet of claim 50 wherein the image is printed onto the release-finish.

56. The graphic transfer sheet of claim 50 wherein the pressure-sensitive adhesive is printed onto the image.

57. The graphic transfer sheet of claim 50 wherein the pressure-sensitive adhesive contacts the backing layer at a surface and the surface is low tack.

58. The graphic transfer sheet of claim 50 wherein the image-receiving substrate, release-finish, image and pressure sensitive adhesive layer are mutually insoluble.

59. The graphic transfer sheet of claim 50 wherein the image is applied directly to the release-finish.

60. The graphic transfer sheet of claim 50, wherein the image is comprised of multiple inks to create a multi-colored image.

61. The graphic transfer sheet of claim 60 wherein the multi-colored image is picture-quality.